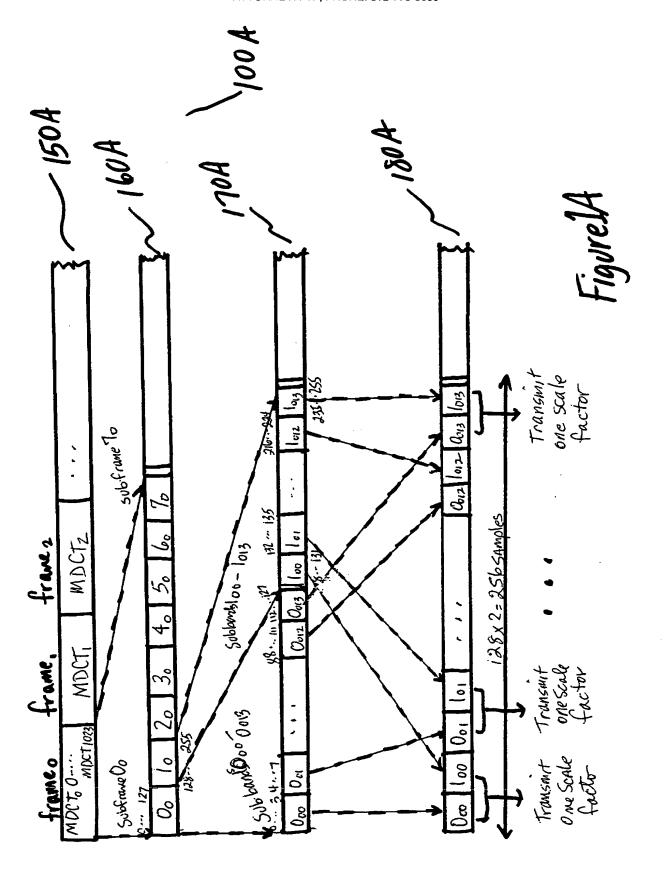TITLE: Reduction of Memory Requirements by De-
Interleaving Audio Samples With Two Buffers
INVENTOR: Arun Rao
APPLICATION NO.: TBD,
CONF. NO.    ; DOCKET NO. 15145US02
ATTORNEY: FTF, PHONE: 312-775-8000

Figure 1

TITLE: Reduction of Memory Requirements by De-
Interleaving Audio Samples With Two Buffers
INVENTOR: Arun Rao
APPLICATION NO.: TBD,
CONF. NO.     ; DOCKET NO. 15145US02
ATTORNEY: FTF, PHONE: 312-775-8000

Figure 1A

TITLE: Reduction of Memory Requirements by De-
Interleaving Audio Samples With Two Buffers
INVENTOR: Arun Rao
APPLICATION NO.: TBD,
CONF. NO.     ; DOCKET NO. 15145US02
ATTORNEY: FTF, PHONE: 312-775-8000

FIGURE 2

TITLE: Reduction of Memory Requirements by De-
Interleaving Audio Samples With Two Buffers
INVENTOR: Arun Rao
APPLICATION NO.: TBD,
CONF. NO.      ; DOCKET NO. 15145US02
ATTORNEY: FTF, PHONE: 312-775-8000

610    640    620    600    630

| Interleaved Left Channel → SRAM | De-Interleaving Engine → | SRAM | DRAM |
|---|---|---|---|
| INTERLeaved Left Channel SRAM | De-Interleaved Left channel SRAM → | | DRAM |
| Interleaved Right Channel → SRAM | De-Interleaving Engine → | SRAM | De-Interleaved Left Channel DRAM |
| Interleaved Right Channel SRAM | De-Interleaved Right Channel SRAM | De-Interleaved Left channel DRAM |

FIGURE 3

TITLE: Reduction of Memory Requirements by De-
Interleaving Audio Samples With Two Buffers
INVENTOR: Arun Rao
APPLICATION NO.: TBD,
CONF. NO.     ; DOCKET NO. 15145US02
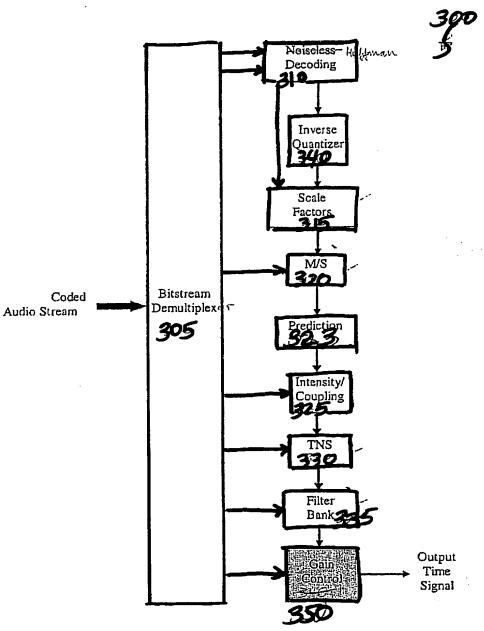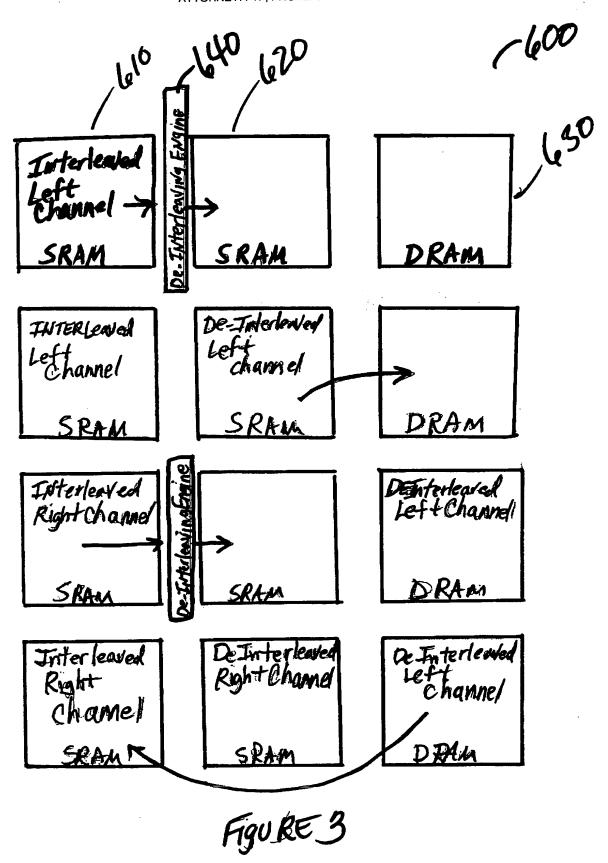ATTORNEY: FTF, PHONE: 312-775-8000

610

620

630

De-Interleaved
Left Channel

De-Interleaved
Right Channel

SRAM

SRAM

DRAM

660

Audio Decoder

666

Figure 4

TITLE: Reduction of Memory Requirements by De-
Interleaving Audio Samples With Two Buffers
INVENTOR: Arun Rao
APPLICATION NO.: TBD,
CONF. NO.     ; DOCKET NO. 15145US02
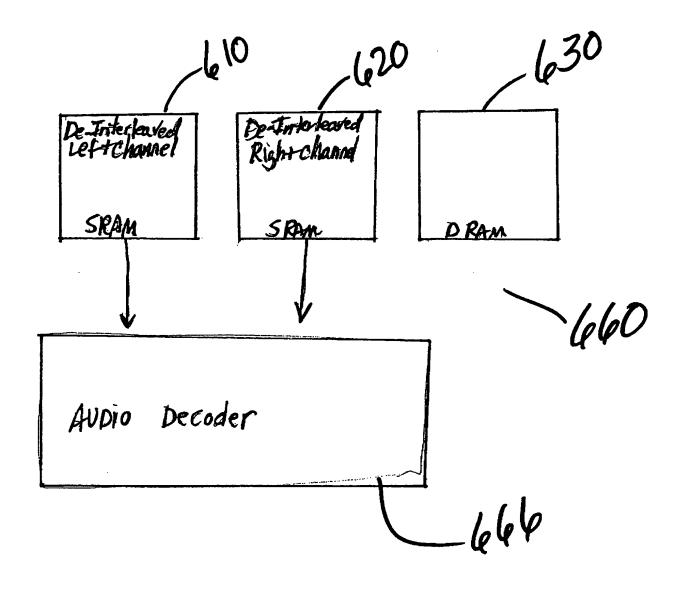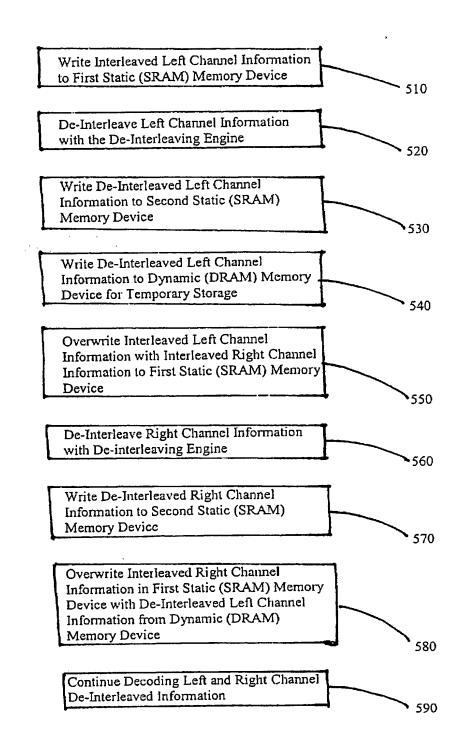ATTORNEY: FTF, PHONE: 312-775-8000

*500*

Write Interleaved Left Channel Information
to First Static (SRAM) Memory Device
— 510

De-Interleave Left Channel Information
with the De-Interleaving Engine
520

Write De-Interleaved Left Channel
Information to Second Static (SRAM)
Memory Device
530

Write De-Interleaved Left Channel
Information to Dynamic (DRAM) Memory
Device for Temporary Storage
540

Overwrite Interleaved Left Channel
Information with Interleaved Right Channel
Information to First Static (SRAM) Memory
Device
550

De-Interleave Right Channel Information
with De-interleaving Engine
560

Write De-Interleaved Right Channel
Information to Second Static (SRAM)
Memory Device
570

Overwrite Interleaved Right Channel
Information in First Static (SRAM) Memory
Device with De-Interleaved Left Channel
Information from Dynamic (DRAM)
Memory Device
580

Continue Decoding Left and Right Channel
De-Interleaved Information
590

Figure 5